

ABSTARCT

Reception points arranged inside an observation region are divided into groups for a plurality of reception points, and a hierarchical structure in which a reception point group having a large scale involves a smaller scale of plural reception point groups is structured in advance. In accordance with determination criteria defined in advance, the reception point groups involving the reception points which need reception determination processing with a ray are successively screened from the reception point groups having a large scale to a smaller scale of reception point groups, and the final reception determination of a ray and the reception points is applied only to the reception points involved in the screened reception point groups. Thereby, since a reception point group which is clearly excluded in the reception determination by means of a conventional technique can be collectively excluded by a reception point group unit involving them, the total number of the reception points to which the reception determination is applied can be reduced. As a result, required time for propagation estimation can be suppressed more than a conventional method.